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REMARKS

The Applicant kindly thanks the Examiner for the interview of December 29, 2004 wherein the amendments presented herein were recommended. The Applicant understands that the amendments will be entered to place the claims in condition for allowance. A Notice of Appeal is, however, submitted herewith to preserve the Applicants rights to pursue the claims per their response of November 30, 2004.

Claims 1-7, 10-13, 15-16, 18-19 and 43 are pending.

Amendment to Claim 1

The language added to claim 1, i.e., "... detecting more than one property of the outgas or volatile organic compound to produce more than one signal; combining the signals to produce a signal output which can be processed with a multivariate statistical algorithm ...", is derived, per the recommendation of the Examiner, from page 8, lines 9-10, of the Applicant's Specification.

It is the respectful understanding of the Applicant that this amendment will place the application for patent in condition for allowance.

The Applicants, however, respectfully review, as follows, previously presented arguments.

Previous Rejection under 35 USC §102(e)

The subject matter of claims 1-2, 5-6, 11-13, 15-16 and 43 have been rejected under 35 USC §102(e) as allegedly anticipated by the disclosure of Sunshine, *et al.*, U.S. Patent No.6,658,915.

The Applicant respectfully remind the Examiner that anticipation, *per se*, under 35 USC §102 necessarily requires *that all of the limitations* of a pending claim must be disclosed in a single prior art reference.

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The present invention is a specific method to solve a problem in the electronics industry. However, there is no teaching in the disclosure of Sunshine of applying gas multisensor arrays combined with multivariate analysis for the monitoring of electronic devices as required by the instant claims. Sunshine, *et al.*, do not teach the method of the present invention. The '915 disclosure, accordingly, cannot anticipate as a matter of law.

Prior art methods of monitoring electronic devices consist of physically breaking an integrated circuit and sampling of components through complex near-infra-red measurement methods. The Examiner is referred to pages 7 and 9, for example, of the instant specification. The present invention, however, provides a non-destructive method of monitoring the quality of semiconductor and encapsulant packaging materials, for example, that frequently cause failure of internal components of electronic devices. Siloxanes, for example, cause disk drive failure. Most semiconductor devices, particularly integrated circuit chips, utilize packaging materials such as plastic encapsulants for physical protection in electronic devices. The determination of Volatile Organic Compounds from parts of hard disc drives is currently performed by a costly and destructive method.

Sunshine, *et al.*, indeed teach "[t]he e-nose device is versatile and meets the needs of a wide range of applications in various industries." Col. 2, lines 47-48. Moreover, Sunshine, *et al.*, state that the, "e-nose device is used for industrial monitoring and detection, i.e., to identity and quantify noxious gas escaping from an industrial valve assembly. E-nose device can also be used for many other applications, as enumerated below." Col.6, lines 1-4. Sunshine, *et al.*, then, enumerate a plethora of contemplated applications at Col.24, line 46 - Col.25, line55:

Analytes and Applications of the E-Nose Device

Analytes detectable by the e-nose device of the invention include, but are not limited to, alkanes, alkenes, alkynes, dienes, alicyclic hydrocarbons, arenes, alcohols, ethers, ketones, aldehydes, carbonyls, carbanions, heterocycles, polynuclear aromatics, organic derivatives, biomolecules, microorganisms, bacteria, viruses, sugars, nucleic acids, isoprenes, isoprenoids, and fatty acids and their derivatives. Many biomolecules, such as amino acids, are amenable to detection using the sensor arrays

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of the invention.

The e-nose device can be used to enable medical and dental care-providers to quickly and accurately identify the chemical components in breath, wounds, and bodily fluids to diagnose a host of illness including infections and metabolic problems. For example, the e-nose device can be used to test for skin conditions, for anesthesia administration, or to determine time of ovulation in fertility treatment. Alternatively, the handheld device can classify and identify microorganisms, such as bacteria.

The e-nose device can be used to locate an odor to identify a complicated system or state of matter, and can offer versatility and reliability absent from conventional environmental or chemical monitoring devices. Advantageously, the device can be used for profiling a chemical environment in a hazardous materials situation and to assist emergency crews to accurately select fire retardant, containment strategies, and protective gear.

The e-nose device can be used to detect leaks in pipelines and storage containers.

The e-nose device can be used in food quality and processing control. For example, the device can be used to spot test for immediate results or to continually monitor batch-to-batch consistency and spoilage in various stages of a product, including production (i.e., growing), preparation, and distribution. The device can also be used in disposable packaging to providing an objectivity that is absent from conventional spoilage, freshness, and contamination monitoring techniques.

The e-nose device can also be used in protecting the elderly, who tend to lose sense of smell over time. The device can be used to reduce the risk of food poisoning or the ingestion of spoiled food, and can be integrated with household appliances, such as refrigerators and microwave ovens.

The e-nose device can be used in a wide variety of commercial applications including, but not limited to:

applications such as utility and power, oil/gas petrochemical, chemical/plastics, automatic ventilation control (cooking, smoking, etc.), heavy industrial manufacturing, environmental toxicology and remediation, biomedicine, cosmetic/perfume, pharmaceutical, transportation, emergency response and law enforcement,

detection, identification, and/or monitoring of combustible gas,

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natural gas, H.sub.2 S, ambient air, emissions control, air intake, smoke, hazardous leak, hazardous spill, fugitive emission,

beverage, food, and agricultural products monitoring and control, such as freshness detection, fruit ripening control, fermentation process, and flavor composition and identification,

detection and identification of illegal substance, explosives, transformer fault, refrigerant and fumigant, formaldehyde, diesel/gasoline/aviation fuel, hospital/medical anesthesia & sterilization gas,

telesurgery, body fluids analysis, drug discovery, infectious disease detection and breath applications, worker protection, arson investigation, personal identification, perimeter monitoring, fragrance formulation, and

solvent recovery effectiveness, refueling operations, shipping container inspection, enclosed space surveying, product quality testing, materials quality control, product identification and quality testing.

However, Sunshine, *et al.*, do not teach a non-destructive *in situ* method for directly monitoring an electronic device, comprising measuring at least one outgas or volatile organic compound of a material, a byproduct of the material, a reaction product of a constituent of the material, or a contaminant of a material of the electronic device. The instant invention specifically requires an *in situ* method for directly monitoring electronic or optic equipment and devices.

The Applicant, accordingly, respectfully requests the Examiner to withdraw the rejection.

Rejection under 35 USC §103

The subject matter of claims 3, 4, and 7 is rejected under 35 USC §103(a) as allegedly obvious over Sunshine, *et al.*, U.S. Patent No.6,658,915 in view of Zenhausern published application 2002/0094531.

The Applicant respectfully points out to the Examiner that the inventive entity of Zenhausern application 2002/0094531 is the same entity of the instant application, i.e.,

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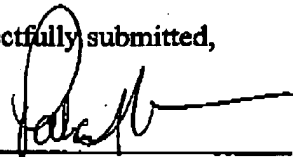
Frederic Zenhausern.¹ Therefore, published Zenhausern application 2002/0094531, is not an application for patent "by another" as required under the statutory terms of 35 USC §102(e) and, accordingly, is not available as prior art. The Applicant, Frederic Zenhausern (the same as in published application 2002/0094531), therefore respectfully requests the Examiner to withdraw the rejection.

* * *

For all the foregoing reasons, the Applicant submits that Claims 1-7, 10-13, 15-16, 18-19 and 43 are in condition for allowance. Early action toward this end is courteously solicited. *The Examiner is kindly encouraged to telephone the undersigned in order to expedite any detail of the prosecution.*

The Applicants herein petition for a one-month extension of time under 37 CFR 1.136(a). The Commissioner is, however, authorized to charge any deficiency or credit any overpayment in connection herewith to Deposit Account No. 50-1943.

Respectfully submitted,



Patrick H. Higgins
Reg. No. 39,709
Attorney for Applicant

Date: December 29, 2004
FOX ROTHSCHILD LLP, 997 Lenox Drive, Building 3, Lawrenceville, NJ 08648-2311
(609) 896-7654 (voice)

¹ The Examiner is respectfully referred to page 8 of the instant specification, lines 3-4, as well as the Declaration of Inventorship of record.